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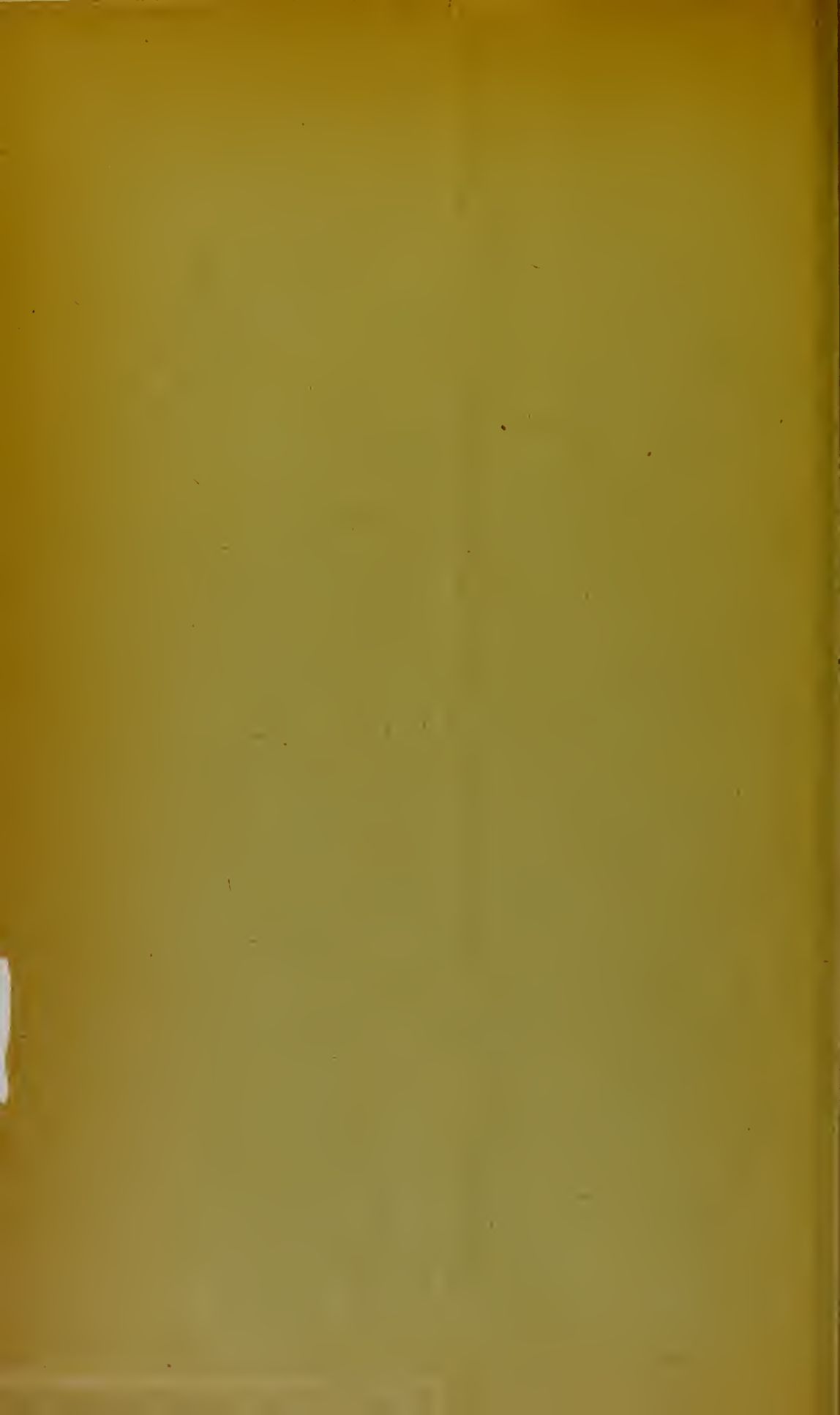
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## CASE OF OBTURATOR HERNIA OF THE OVARY.

By J. DUNLOP LICKLEY, M.B., CH.B., GLASG.,

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THE following case of a right obturator hernia of the ovary was observed in a dissecting-room subject, aged 87, who died of general debility following hemiplegia. The hernial condition was not recognised during life, consequently there was no clinical history relating to the case. The difficulty of diagnosis, had the condition been suspected, would have been exaggerated by the presence of the hemiplegic condition on the right side, any guiding symptoms referring to pressure on the obturator nerve being masked thereby.

Obturator hernia of the ovary appears to be of extremely rare occurrence. In an analysis of twenty-five cases of obturator hernia recorded in Holmes and Hulke's *System of Surgery*,<sup>1</sup> mention is made of one case in which the Fallopian tube and ovary formed the contents of the sac, but this, so far, is the only case I have been able to find in the literature of the subject. Under the consideration of ovarian hernia, most of the text-books of gynæcology mention the obturator form as a possible occurrence, but give no reference to any actual case. Roguer Gusenthal<sup>2</sup> describes a case of obturator hernia of the intestine where the ovary and tube descended into the hernia sac, and he has noted three other cases of a similar nature described by other observers. In their paper on "Hernia Obturatrice," Picqué and Poirier<sup>3</sup> figure and describe a case of this form of hernia, in which the Fallopian tube had descended with the intestine into the sac. In the present case, however, there was no suspicion that the bowel had, at any time, either taken part in inducing the protrusion of the hernial sac or formed part of its contents. The following are the details of the case:—

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<sup>1</sup> Holmes and Hulke, *A System of Surgery*, 1883, vol. ii.

<sup>2</sup> Roguer Gusenthal, *Wiener Med. Presse*, June, 1893, No. 26.

<sup>3</sup> Picqué and Poirier, *Revue de Chirurgie*, 1892, xii.

The hernial sac contained the whole ovary (measuring 3·7 em. by 1·6 cm.), 1 em. of the round ovarian ligament, and about 4·8 em. of the Fallopian tube. These were not in any part adherent to the sac, and could be pulled out with great ease. The mouth of the sac was circular, its diameter being 1·4 cm., and the peritoneum lining it was thrown into a series of small redundant folds. The sac itself was flask shaped, its greatest depth being 5·4 em., its greatest transverse measurement 2·8 em. It extended inferiorly to the upper border of the adductor magnus, and internally to the spine of the pubis. The strong aponeurosis underlying the pectineus bound down the sac anteriorly. The outer border of the pectineus muscle had been stretched by the pressure of the hernia, and its muscular bundles were separated by strands of fascia containing fat. Posteriorly, the sac lay on the obturator externus muscle, the thick upper border of which lay immediately below and behind the neck of the sac. The obturator nerve and vessels were found in their usual relations to one another at the external aspect of the neck of the sac. The nerve, at its entrance into the foramen, gave off the branch to the obturator externus, which passed behind the neck of the sac to enter the upper border of the muscle. After its exit from the foramen, the main nerve also turned inwards behind the sac and divided higher than usual, its muscular branches emerging from under the sac. The branch to the adductor gracilis was the innermost; the branches to the adductor brevis, adductor longus and pectineus, lying practically in the same plane, appeared in order from within outwards. On a slightly deeper plane, and to the outer side of the twig to the adductor brevis, was the branch to the adductor magnus. Neither the obturator nerve, nor any of its branches, was adherent to the hernial sac. The sac seemed, in this case, to have been pushed out in front of the obturator nerve, escaping altogether any such resistance to its passage from the nerve or its branches, as was reported in one case by Vinson.<sup>1</sup>

The obturator artery gave off its pubic branch within the pelvis, about 1 em. from the foramen. This branch, which was of small size, passed inwards under the foramen to reach the posterior aspect of the body of the pubis. After passing through the foramen, the obturator artery divided on the border of the thyroid membrane into its external and internal branches.

The neck of the sac lay to the inner side of the obliterated

<sup>1</sup> Vinson, *Th. Paris*, 1844, No. 240.



hypogastric artery. On the inner boundary of the mouth of the sac was the side of the bladder, which, in this subject, was enlarged and extended in the collapsed state up to the edge of the obturator ring. This extension was also noted on the opposite side, and was, therefore, not the result of traction of the hernia. The wall of the hernial sac consisted of two distinct layers—a layer of peritoneum within, and a layer of pelvic fascia without. Between these two layers was a considerable amount of fat, the fat of the subperitoneal tissue, which reached its maximum at the bottom of the sac, forming there a well-defined pad of fat about 1 cm. in diameter.

There were a few associated pathological conditions in the case which are worthy of notice. The ovary, which was lodged in the hernial sac, had a very smooth covering, on which no scars were visible. It contained numerous small cysts, a condition which existed also in the left ovary. Adhesive bands bound down the left ovary, and a well-marked adventitious band was found, stretching from the uterus to the rectum, across the pouch of Douglas. The round ovarian ligament of the right side was much longer than that of the left, the measurements being—right, 8.5 cm., and left, 1 cm. The right Fallopian tube was correspondingly elongated. The body of the uterus had been deflected to the right side, the cervix lying over to the left.

As remote pathological conditions may be mentioned (1) a constriction of the vagina, 3.7 cm. from the orifice, associated with (2) an adhesive obliteration of the external os; and (3) a distinct small hernial sac in the left crural canal.

1. Apart from the rarity of this form of obturator hernia, the chief interest in this case is to be found in the arrangement of the fascia forming the sac of the hernia. As quoted by Fredet,<sup>1</sup> Picqué and Poirier, and following them Berger, have described the sac of an obturator hernia as formed merely of peritoneum. According to these writers, the obturator ring is uncovered by fascia, the pelvic fascia recognised by them stopping short, when followed upwards from the surface of the obturator internus muscle, in a distinct thickened band which forms the lower boundary of the foramen, a view which has been adopted in recent text-books.<sup>2</sup> I have examined several normal pelves with a view to this point, and

<sup>1</sup> Fredet, *Revue de Chirurgie*, 1901, xxiii.

<sup>2</sup> Testut, *Traité d'Anatomie Humaine*, 1897; Poirier, *Traité d'Anatomie Humaine*, 1896; Quain's *Anatomy*, 1892, vol. ii, part 2.

find that there does exist a layer of fascia over the foramen, a layer which is quite distinctly defined, although much thinner than the thickened rim with which it is continuous at the lower margin of the ring. This thin layer is pierced by the obturator vessels and nerves, which receive an investment from it as they pass through the foramen.

Most of the other observers who have described cases of obturator hernia have recognised a distinct fascia forming the outer wall of the sac, but have differed somewhat in their interpretation of the nature of this fascia. Labbé,<sup>1</sup> for instance, describes it as *fascia iliaca* and *fascia pelvien*, while much more recently Targett<sup>2</sup> has distinguished it as *obturator fascia*. These differences are, however, probably differences merely in the nomenclature. In the present case, I have adopted the nomenclature of Cleland and Mackay,<sup>3</sup> and have described as *pelvic fascia*, that layer of fascia which is bound down to the iliopectineal line, and is continuous above and externally with the iliac fascia and inferiorly with the rectovesical fascia. During the formation of the hernia, the fine layer of this fascia, which originally covered the ring, has undergone considerable thickening, and has been carried forward as a well marked fascial pouch, separated loosely from the peritoneal sac by a quantity of fat. This pouch can be very easily stripped off from the peritoneum, and its continuity with the pelvic fascia demonstrated.

Fredet<sup>4</sup> has not been able to find this layer of pelvic fascia in his case, but has described as the outer covering of the sac a layer of what he has called *umbilico-vesical fascia*. This umbilico-vesical fascia is a layer of subperitoneal fascia which passes between the obliterated hypogastric arteries of the two sides across the front of the bladder, and extends up to the umbilicus. This fascia was present here, but as it was with difficulty separable from the peritoneum, I have included it with that sac, regarding it as a specially defined and strengthened subperitoneal tissue.

Fredet lays considerable stress on the presence of this covering of the hernia as a means of differentiating the congenital and acquired forms of obturator hernia from one another. He believes that the umbilico-vesical fascia is formed by the approximation and fusion of two adjacent

<sup>1</sup> Labbé, *Bull. Soc. Imp. de Chir.*, Paris, 1866.

<sup>2</sup> Targett, case reported by Sinigar, *British Medical Journal*, 6th March, 1897.

<sup>3</sup> Cleland and Mackay, *Anatomy, General and Descriptive*, 1896.

<sup>4</sup> Fredet, *loc. cit.*



layers of peritoneum continuous with a mesocyst which is present in the fetus. Such a mesocyst I have found existing in fetuses of about the fourth month, where it is in relation with the upper three-fourths or so of the bladder, but in later fetal life it rapidly disappears. In the fetus of the sixth month, it is represented merely by a fold of peritoneum which forms a small pouch projecting inwards for a short distance in front of the hypogastric artery—the anterior surface of the bladder being practically free of peritoneum. At the seventh month, all trace of the mesocyst has entirely disappeared. Even if this umbilico-vesical fascia, which in the present case was, as already noted, closely adherent to the peritoneum—a condition which is probably the normal one—be recognised as a distinct covering of the hernia, yet its presence could only serve to demonstrate that the hernia had been formed after the sixth month of intra-uterine life.

2. The great enlargement of the bladder may be considered as one of the factors which determined an ovarian rather than an intestinal hernia in this case. As noted above, the bladder wall, in the collapsed state, reached the margin of the foramen, while in distension the bladder covered the ring to a very considerable extent. It seems probable that, in this way, it protected in some measure the upper and inner parts of the foramen from the direct pressure of the intestine, while, at the same time, it left open the outer and inferior portion through which the ovary had been pushed.

3. So far as could be judged from the anatomical appearances, the hernia had never carried before it the obturator nerve or any of its branches. The very great elongation of the round ligament of the ovary pointed to the fact that the hernia was probably of long standing, and the smooth condition of the ovarian covering, indicating some interference with ovulation, taken in conjunction with the size of the ovary, would lead one to suppose—although the evidence is by no means conclusive—that the protrusion of the hernia had taken place in early adult life.

In the case already referred to, reported by Vinson, the hernia was arrested by the obturator nerve, which formed a flattened constricting band stretched over the sac. Reasoning from this case, Fredet has argued that the pain and paralysis produced in the region of distribution of the obturator nerve (Romberg's sign) is due to some such condition. He supposes that in the early stages, when Romberg's

sign is most evident, the hernia is temporarily arrested by the obturator nerve or some of its branches, and that as the hernial sac increases in size, it manages to throw off this constricting band, and the urgent pressure symptoms disappear.

In the present case, the appearances seem to point to the fact that the hernia has been protruded in front of the nerve and its branches, and has not been constricted in this manner. It must, of course, be remembered that the hernia here was ovarian; but any pain in the obturator region would, in this case, have been due to the steady pressure of the hernia, and would naturally be greater at the commencement of the hernial formation, when the bulk of the ovary was being forced through the ring. In addition, it seems reasonable to suppose that the pain would be liable to exacerbations at each menstrual period from the engorgement of the ovary.













